

Amendments to the Claims:

Claims 1-66 (canceled).

Claim 67 (currently amended).

A method for making a recombinant DNA molecule comprising:

- a) preparing first and second double-stranded oligonucleotides, wherein said first double-stranded oligonucleotide comprises a first oligonucleotide ~~DNA~~ strand comprising, from 3' to 5', a first nucleotide sequence (A') and a second nucleotide sequence (C'), said first nucleotide sequence being homologous to the nucleotide sequence of a first homology arm (A) on a vector DNA strand and said second nucleotide sequence being homologous to the nucleotide sequence of a first terminus (C) on a target DNA strand, and wherein said second double-stranded oligonucleotide comprises a second oligonucleotide strand comprising, from 3' to 5', a third nucleotide sequence (B') and a fourth nucleotide sequence (D'), said third nucleotide sequence being homologous to the nucleotide sequence of a second homology arm (B) on said vector DNA strand and said fourth nucleotide sequence being homologous to the nucleotide sequence of a second terminus on said target DNA strand (D); wherein said vector DNA strand comprises an origin of replication and two homology arms, in the following order from 5' to 3' along a vector DNA strand: [a] said first homology arm (A), an origin of replication and [a] said second homology arm (B), wherein said target DNA comprises a target DNA sequence and two termini, in the following order, from 3' to 5' along a target DNA strand: [a] said first terminus (C), a target DNA sequence and [a] said second terminus (D), the orientation of the two homology arms (A, B) relative to the ~~desired insert-target DNA sequence~~ being the same as the orientation of the ~~homologous sequences~~ first and second termini (C, D) relative to the target DNA so that recombination between the two homology arms and the first and second

termini results in the ~~desired~~-target DNA sequence being inserted between the homology arms;

- b) introducing the target DNA and the first and second double-stranded oligonucleotides into a cell, said cell containing a vector comprising said vector DNA strand and expressing a bacterial recombinase; and
- c) subjecting the cell to conditions that allow intracellular homologous recombination to occur.

Claim 68 (currently amended).

A method for marking a recombinant DNA molecule comprising:

- a) preparing first and second double-stranded oligonucleotides, wherein said first double-stranded oligonucleotide comprises a first oligonucleotide ~~DNA~~-strand comprising, from 3' to 5', a first nucleotide sequence (A') and a second nucleotide sequence (C'), said first nucleotide sequence being homologous to the nucleotide sequence of a first homology arm (A) on a vector DNA strand and said second nucleotide sequence being homologous to the nucleotide sequence of a first terminus (C) on a target DNA strand, and wherein said second double-stranded oligonucleotide comprises a second oligonucleotide strand comprising, from 3' to 5', a third nucleotide sequence (B') and fourth nucleotide sequence (D'), said third nucleotide sequence being homologous to the nucleotide sequence of a second homology arm (B) on said vector DNA strand and said fourth nucleotide sequence being homologous to the nucleotide sequence of a second terminus (D) on said target DNA strand; wherein said vector DNA strand comprises an origin of replication and two homology arms, in the following order from 5' to 3' along a vector DNA strand: said first homology arm (A), an origin of replication and said second homology arm (B), wherein said target DNA comprises a target DNA sequence and two termini, in the following order, from 3' to 5' along a target DNA strand: said first terminus (C), a target DNA sequence and said second terminus (D), the orientation of the two homology arms (A, B) relative to the ~~desired~~-insert

target DNA sequence being the same as the orientation of the ~~homologous sequences~~ first and second termini (C, D) relative to the target DNA so that recombination between the two homology arms and the first and second termini results in the ~~desired~~-target DNA sequence being inserted between the homology arms;

- b) introducing ~~the~~ a vector comprising said vector DNA strand, the target DNA, and the first and second double-stranded oligonucleotides into a cell expressing a bacterial recombinase; and
- c) subjecting the cell to conditions that allow intracellular homologous recombination to occur.

Claims 69-83 (canceled).